

AMENDMENTS TO THE DRAWINGS

Figs. 5A-5C have been amended to change the occurrence of “ 16 ”, to “ 16’ ”.

Figs. 9 and 10 have been amended to include the text, “(PRIOR ART)”.

Mark-up Sheets further illustrating the above changes have been provided in addition to the Replacement Drawing Sheets for the Examiner’s convenience.

REMARKS

Claims 1-5 and 7-10 are presently pending in this application and have been added to claim additional features of the claimed invention. Claim 6 has been canceled.

It is noted that the new claims are made only to more particularly define the invention and not for distinguishing the invention over the prior art, for narrowing the scope of the claims, or for any reason related to a statutory requirement for patentability. It is further noted that, notwithstanding any new claims herein, Applicant's intent is to encompass equivalents of all claim elements, even if amended herein or later during prosecution.

The Drawings and Specification are objected to and Applicant has amended the Drawings and Specification to be fully responsive to all points raised by the Examiner.

Figs. 5A-5C have had all occurrences of "16" changed to "16".

In response to the objection for failing to include reference numbers 102 and 112 in the drawings, Applicant's point to the Examiner that reference number 102 can be found in Fig. 8, and the specification has been amended to change "112" to "12" in conformity with Figs. 1, 9 and 10.

Claim 5 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claim 5 has been amended in a manner fully responsive to all points raised by the Examiner.

Claim 1 stands rejected under 35 U.S.C. §103(a) as being unpatentable over the Admitted State of Prior Art, (ASPA), further in view of Radabaugh et al., U.S. Pat. No. 5,343,590.

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over the ASPA further in view of Radabaugh et al., U.S. Pat. No. 5,343,590, and Dekker et al., U.S. Pat. No. 5,363,534.

Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable over ASPA further in view of Radabaugh et al., U.S. Pat. No. 5,343,590, WO99/09875 and Knoedler et al., U.S. Pat. No. 5,210,532.

Claims 4 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the ASPA further in view of Radabaugh et al., U.S. Pat. No. 5,343,590 and Edwards et al., U.S. Pat. No. 6,946,988.

Claims 6-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the ASPA further in view of Radabaugh et al., U.S. Pat. No. 5,343,590 and Chen et al., 4,369,543.

These rejections are respectfully traversed in view of the following discussion.

I. APPLICANT'S CLAIMED INVENTION

The claimed invention (as defined, for example, by independent claim 1) is directed to a combination of a dust collector and a hand-held power tool. The dust collector includes, a motor functioning as a driving source, a drive unit for driving a motor, a dust collection fan rotated by the motor, a head section for accommodating the dust collection fan, a switch provided on the head section to control the starting of the motor, a tank section located below the head section, for accommodating dust conveyed by the dust collection fan, the tank section having a connection portion, a duct hose having one end and an other end, the one end attached to the connecting portion, the other end being detachably connected to a portion of the hand-held powertool, and a power cord. The hand-held powertool includes a power cord. The combination is characterized in that the dust collector further includes a remote-control transmitter for transmitting a signal, a remote-control receiver for receiving the signal from

the remote-control transmitter to control the drive unit to start or stop the motor, and a receiving antenna connected to the remote-control receiver, the receiving antenna being disposed in an area where the motor has not an influence.

Conventionally, debris collecting vacuum systems for attachment to a power tool included the operator manually activating the vacuum before operating the power tool, and after operating the power tool, manually deactivating the vacuum. Additionally, the power tool could be electrically connected to the vacuum such that when the power tool is activated/deactivated, the vacuum is activated/deactivated at the same time. However, this latter configuration causes too much electrical current loading of a single power supply circuit for both the power tool and the vacuum. (Application at page 1, line 10 to page 5, line 4, and Figs. 9 and 10.)

The claimed invention (e.g., as recited in claim 1), on the other hand, includes a combination characterized in that said dust collector further includes a remote-control transmitter for transmitting a signal, a remote-control receiver for receiving the signal from the remote-control transmitter to control the drive unit to start or stop the motor, and a receiving antenna connected to the remote-control receiver, the receiving antenna being disposed in an area where the motor has no influence. These features are important such that the relative position of the remote controller with respect to its receiver is not limited. The receiver can receive a signal from the remote controller in any place. (Application at page 5, lines 5-15.)

II. THE ALLEGED PRIOR ART REJECTIONS

- A. 35 U.S.C. § 103(a) Rejection over the Admitted State of Prior Art further in view of Radabaugh et al., U.S. Pat. No. 5,343,590

The Examiner alleges that Admitted State of Prior Art, (ASPA), further in view of Radabaugh et al., U.S. Pat. No. 5,343,590, (Radabaugh), teaches the invention of claim 1.

Applicant submits, however, that the ASPA further in view of Radabaugh fails to teach or suggest, “combination of a dust collector and a hand-held power tool,” including, “a remote-control transmitter for transmitting a signal; a remote-control receiver for receiving the signal from the remote-control transmitter to control the drive unit to start or stop the motor; and a receiving antenna connected to the remote-control receiver, the receiving antenna being disposed in an area where the motor has no influence.”

Radabaugh teaches a transmitter located in a hose handle 18 is connected via a wired power line 23 from the appliance 21 to a wall socket 26, wherein the signal generated by the transmitter is communicated via the household electrical wiring 23 to a receiver located proximate to the vacuum cleaning pump motor 3.

To route electrical power to the appliance, a power line 23 is combined with the vacuum hose 15 as hereinafter described and includes one end 24 plugged into a wall socket 26 carrying household electrical current, which, in the United States, is a standard system having a 110-125 volt AC current at 60 Hertz. The power line 23 is routed through the hose handle 18 to a connection 27 at the end of the hose handle 18 whereupon a second segment of power line 23 from the appliance 21 can be plugged into the connection 27 if the use of such an appliance 21 is desired. (Column 4, lines 29-39.)

The present invention is directed to a transmitter, such as located in the hose handle 18, that is remotely positioned from the central vacuum cleaner pump motor 3 and is used to generate an electrical signal which is applied to wiring within the appliance power line 23. The electrical signal is a control signal and is transmitted throughout the house on the house current wiring. A receiver is generally proximately positioned to the central vacuum cleaning pump motor 3, such as within or without the motor pump housing, and is also connected to the house AC main wiring. The receiver detects the control signal applied to the house wiring by the transmitter and turns on and off the vacuum motor 3 in response to the received control signals. (Emphasis added.) (Column 4, lines 40-53.)

Therefore, Radabaugh teaches away from Applicant's invention of a receiving antenna connected to the remote-control receiver, the receiving antenna being disposed in an area where the motor has no influence," since the disclosure of Radabaugh teaches at the transmitter located on the hose handle 18 transmits a signal along a wired signal path of power line 23. When the dust collector of Radabaugh is used, the hose 18 is used with a remote controller. However, Radabaugh fails to teach or suggest the removal of the remote controller from the hose 18 since the remote controller uses a wired configuration to communicate with pump motor 3. The relative position of the remote controller with respect to its receiver (hose handle 18), is limited, and the receiver 18 can receive a signal from the remote controller only in a predetermined region, i.e., when the remote controller is fixedly attached to hose 18. According to Applicant's invention, the relative through a position of the remote controller with respect to its receiver is not limited, and the receiver can receive a signal from the remote controller in any place, i.e., removed from and remote with respect to the dust collector, or attached to the dust collector.

Furthermore, Radabaugh fails to teach or suggest, "combination of a dust collector and a hand-held power tool," but merely teaches a central vacuum without the teaching or suggestion of any combination of the hand-held power tool.

B. 35 U.S.C. § 103(a) Rejection over Radabaugh et al., U.S. Pat. No. 5,343,590 further in view of Dekker et al., U.S. Pat. No. 5,363,534

The Examiner alleges that Radabaugh et al., U.S. Pat. No. 5,343,590, (Radabaugh), further in view of Dekker et al., U.S. Pat. No. 5,363,534, (Dekker), teaches the invention of claim 2.

Applicant submits, however, that Radabaugh further in view of Dekker does not teach

or suggest, “combination of a dust collector and a hand-held power tool,” including, “a remote-control transmitter for transmitting a signal; a remote-control receiver for receiving the signal from the remote-control transmitter to control the drive unit to start or stop the motor; and a receiving antenna connected to the remote-control receiver, the receiving antenna being disposed in an area where the motor has no influence.”

Dekker is similar in its teaching to that of Radabaugh, in that Dekker teaches a remote control circuit 210 that controls an electronic circuit 120 via electrical wiring extending to the housing of the vacuum cleaner.

For controlling the electronic circuit 120 the suction tube 200 has been provided with electrical wiring which extends from the remote control circuit 210 to the housing 100 of the vacuum cleaner, the suction tube 200 and the housing 100 being coupled to one another by means of a coupling provided by electrical connectors. (Emphasis added.) (Column 3, lines 36-43.)

For the purpose of switching on/off the remote control circuit comprises a switch 211 coupled between two connectors 221 and 222. Since the control circuit 121 is powered via the remote control circuit 210, the electric motor 110 cannot be switched on when the suction tube 200 with the remote control circuit 210 is not coupled to the housing 100. (Emphasis added.) (Column 4, lines 6-12).

Therefore, Dekker teaches away from Applicant’s invention of a receiving antenna connected to the remote-control receiver, the receiving antenna being disposed in an area where the motor has no influence,” since the disclosure of Dekker teaches at the transmitter located on the hose handle 18 transmits a signal along a wired signal path of power line 23.

Furthermore, Dekker fails to teach or suggest, “combination of a dust collector and a hand-held power tool,” but merely teaches a central vacuum.

- C. 35 U.S.C. § 103(a) Rejection over ASPA further in view of Radabaugh et al., U.S. Pat. No. 5,343,590, WO99/09875 and Knoedler et al., U.S. Pat. No. 5,210,532.

Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable over ASPA further in view of Radabaugh et al., U.S. Pat. No. 5,343,590, (Radabaugh), WO99/09875 (WO'875), and Knoedler et al., U.S. Pat. No. 5,210,532 (Knoedler).

Applicant submits, however, that neither Radabaugh et al., U.S. Pat. No. 5,343,590, and Knoedler et al., U.S. Pat. No. 5,210,532 teach or suggest, , “combination of a dust collector and a hand-held power tool,” including, “a remote-control transmitter for transmitting a signal; a remote-control receiver for receiving the signal from the remote-control transmitter to control the drive unit to start or stop the motor; and a receiving antenna connected to the remote-control receiver, the receiving antenna being disposed in an area where the motor has no influence.”

Knoedler merely teaches a baby monitor device with a clip member, and fails to teach or suggest any wireless remote-control transmitter or receiver.

WO'875 teaches a cordless remote control device for a vacuum cleaner that may be removeably mounted on a handle or a suction pipe of a vacuum. (Abstract.)

However, WO'875 is relied on by the Examiner for no other teaching but the cordless remote control device, that is, no detail is given as to the actual vacuum device itself in WO'875.

Therefore, WO'875 fails to teach, “a combination of a dust collector and a hand-held power tool.”

D. 35 U.S.C. § 103(a) Rejection over the ASPA further in view of Radabaugh et al., U.S. Pat. No. 5,343,590 and Edwards et al., U.S. Pat. No. 6,946,988.

Claims 4 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the ASPA further in view of Radabaugh et al., U.S. Pat. No. 5,343,590 and Edwards et al., U.S.

Pat. No. 6,946,988, (Edwards).

The Examiner alleges that one of ordinary skill in the art would have been motivated to modify Radabaugh with the teaching from Edwards to form the invention of claims 4 and 5. Applicant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Applicant submits that Radabaugh would not have been combined with Edwards as alleged by the Examiner. Indeed, these references are non-analogous because they are completely unrelated. (Radabaugh is directed to a remote control system for actuating a central vacuum system from a remote location such as a vacuum cleaning hose handle without the use of a separate, dedicated system of control wires by using household electrical wiring as a conductor path. Edwards is directed to a wireless detachable remote controller for an electronic entertainment device.) No person of ordinary skill in the art would have considered combining these disparate references, absent impermissible hindsight.

In fact, Applicant submits that the Examiner can point to no motivation or suggestion in the references to urge the combination as alleged by the Examiner.

Therefore, Applicant submits that one of ordinary skill in the art would not have been so motivated to combine the references as alleged by the Examiner.

Radabaugh teaches a transmitter located in the hose handle 18 is connected via a wired power line 23 from the appliance 21 to a wall socket 26, wherein the signal generated by the transmitter is communicated via the household electrical wiring 23 to a receiver located proximate to the vacuum cleaning pump motor 3, as discussed above. The transmitter of Radabaugh is permanently connected to the hose handle 18 and is electrically connected

via a wired power line 23.

There is no teaching of suggestion within either Radabaugh or Edwards to combine the permanently connected transmitter of Radabaugh with the wireless transmitter of Edwards. Radabaugh teaches away from a wireless transmitter as disclosed in Edwards by teaching that the transmitter is connected via wired power line 23.

Furthermore, neither Radabaugh or Edwards teach or suggest, “a combination of a dust collector and a hand-held power tool.”

E. 35 U.S.C. § 103(a) Rejection over 35 U.S.C. §103(a) as being unpatentable over the ASPA further in view of Radabaugh et al., U.S. Pat. No. 5,343,590 and Chen et al., 4,369,543.

Claims 6-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the ASPA further in view of Radabaugh et al., U.S. Pat. No. 5,343,590 and Chen et al., 4,369,543, (Chen).

The Examiner alleges that one of ordinary skill in the art would have been motivated to modify Radabaugh with the teaching from Chen to form the invention of claims 6-10. We propose to argue that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Applicant submits that Radabaugh would not have been combined with Chen as alleged by the Examiner. Indeed, these references are non-analogous because they are completely unrelated. (Radabaugh is directed to a remote control system for actuating a central vacuum system from a remote location such as a vacuum cleaning hose handle without the use of a separate, dedicated system of control wires by using household electrical wiring as a conductor path. Chen is directed to a remote-control radio vacuum cleaner having

a remote-control receiving antenna for receiving commands from a remote-control transmitter.) No person of ordinary skill in the art would have considered combining these disparate references, absent impermissible hindsight.

In fact, Applicant submits that the Examiner can point to no motivation or suggestion in the references to urge the combination as alleged by the Examiner.

Therefore, Applicant submits that one of ordinary skill in the art would not have been so motivated to combine the references as alleged by the Examiner.

Radabaugh teaches a transmitter located in the hose handle 18 is connected via a wired power line 23, as discussed above. The transmitter of Radabaugh is permanently connected to the hose handle 18 and is electrically connected via a wired power line 23.

There is no teaching of suggestion within either Radabaugh or Chen to combine the permanently connected transmitter of Radabaugh with the receiving antenna of Chen. Radabaugh teaches away from a wireless receiving antenna as disclosed in Chen by teaching that the transmitter is connected via wired power line 23.

Furthermore, neither Radabaugh or Chen teach or suggest, “a combination of a dust collector and a hand-held power tool.”

III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 11-19, all of the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Date:

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Respectfully Submitted,

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FIG. 4

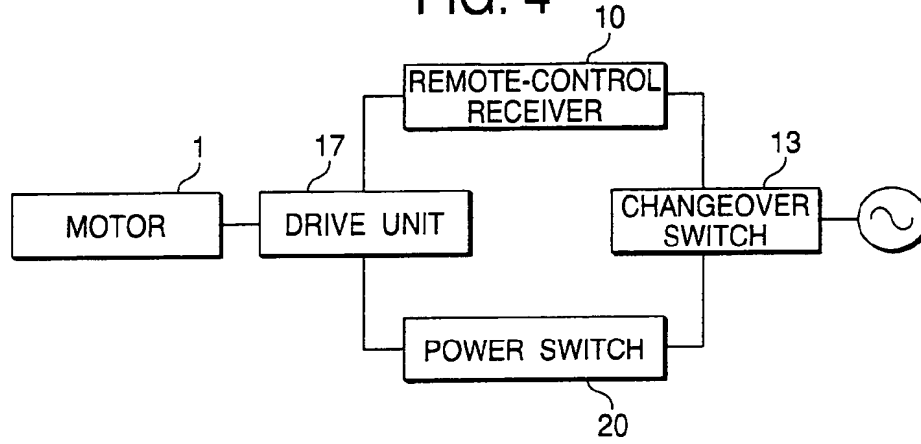


FIG. 5A

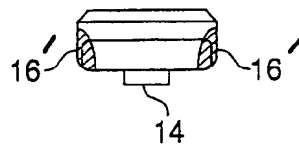


FIG. 5B

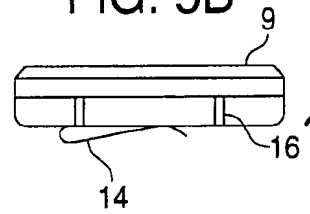


FIG. 5C

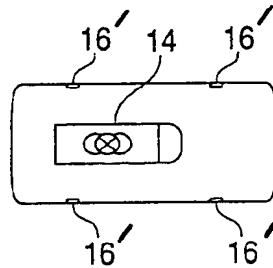


FIG. 9
(PRIOR ART)

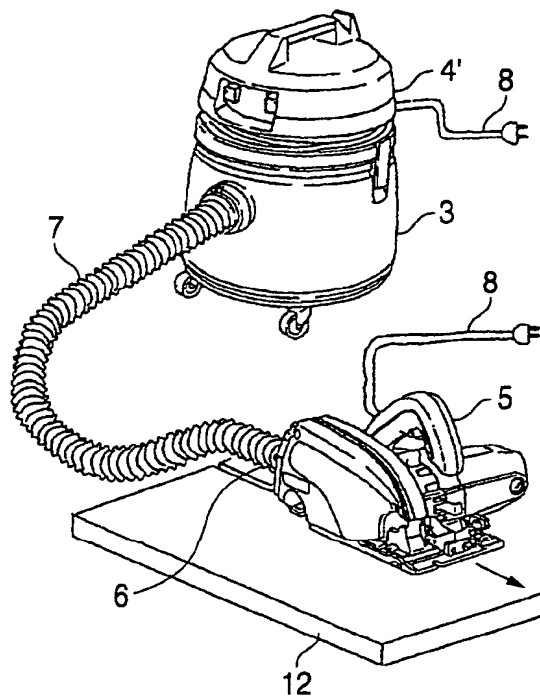


FIG. 10
(PRIOR ART)

